Action area profiles

The legislation that created the Partnership established seven geographic action areas around the Sound to address problems specific to those areas as they relate to the ecosystem as a whole. Following the structure of the Action Agenda questions, a profile for each action area was created to reflect the geographic and social makeup of the action area and the unique challenges it faces.

The eight action area profile tables identify unique ecosystem benefits and contributions, local threats to ecosystem health, and the actions that move the region, as well as local areas, towards a healthy Puget Sound. The tables are not an exhaustive list of all threats or actions possible in an action area, but instead highlight key issues and actions organized by the Action Agenda strategic priorities. It is important to note that the level of detail about problems and concerns varies greatly around Puget Sound, and in most instances, we are not yet able to compare data across Puget Sound. The profiles reflect local, documented knowledge. The action priorities, for the most part, affirm activities already underway to tackle problems in each action area. Over-time, the action area priorities will need to be refined as we better understand the most important actions within and between local areas.

It is important to view the profiles in relation to the overall Action Agenda as well as one another, as they are intended to nest under the Sound-wide priorities. The individual action area tables may not reflect overarching needs that action areas have identified as important, such as the need for financial and technical assistance with permit compliance, additional ecological monitoring, regional funding, and the rescue tug. Actions that need to be addressed regionally are in the main body of the Action Agenda Question 3 and summarized in the Sound-wide table that precedes individual tables.

How were the profiles developed?

Over the past eleven months, the Partnership has worked with regional scientists, policy experts, and concerned citizens in each action area to develop tailored solutions to their unique problems. We hosted 23 community meetings to discuss the status of Puget Sound's health and understand key issues in each action area tie those key threats to local actions. These discussions with the public have been supplemented by hard work by Partnership liaison staff, Ecosystem Coordination Board representatives, and Leadership Council members who have been working with core members of their action area to refine. In addition, we used the inventory of actions conducted during the development of the Action Agenda.

Next steps

The final Action Agenda will include a narrative description of each action area, maps, updates to these tables that include responsibilities for action.

Draft Action Area Priorities– Strait of Juan de Fuca Action Area

Ecosystem benefits provided by action area	Local threats to ecosystem benefits	Priority action area strategies

Unique Species
• Rare and unique upland species of birds, plants, and animals
 	
Unique Habitat Type and Ecosystem Processes
• Marine/estuary: Exchange of fresh and marine waters helps Puget Sound from becoming stagnant
• Marine/estuary: Migration corridor for fish, bird and marine mammal species
• Upland: Intact upland forests in and around Olympic National Park, Forest, and Wilderness Areas
 	
Food and Timber (harvest)
• Timber and pulp production
• Agricultural production with an extended growing season because of low precipitation conditions
• Shellfish production
• Commercial, recreational, and tribal fishing
• Hatcheries provide harvest opportunities and population stability while wild salmon stocks rebuild: Elwha spring Chinook, Dungeness spring Chinook, Dungeness pink salmon
 	
Recreation and Tourism
• Olympic National Park and Forest, Dungeness National Wildlife Refuge, Olympic Discovery Trail
 	
Community and Economy
• Rural communities
• Favorable climate conditions draws retirees to reside in area
• Marine vessel passage, shipping and marine trades
• Jamestown S'Klallam Tribe
• Lower Elwha Klallam Tribe
• Makah Tribe
	Habitat Alteration
	• **Marine/estuary**: Loss of estuary habitat and pocket estuaries
	• **Marine nearshore**: 14% shoreline modified stretching from Point Wilson to Elwha; 1439 overwater structures; 1.8 miles of railroad along marine shoreline
	• **Freshwater**: Blocked habitat in over 70 miles of mainstem and tributaries; 95% of historic Chinook habitat blocked by Elwha dam system; disruption of river processes through dikes, riparian development, vegetation removal, and poor forest practices
	• **Upland**: Loss of working farms and forests through conversion
	
	Pollution
	• **Toxics**: Port Angeles Harbor contamination, including Rayonier Mill site contamination; contamination from Warmhouse Beach Open Dump site threatens human health, water quality, and shellfish areas; potential threats from oil spills due to high marine traffic
	• **Bacterial Pollution**: High levels of fecal coliform contamination in lower Dungeness River and independent streams and Dungeness and Discovery Bays, resulting in shellfish bed closures
	• **Surface water runoff impacts**: CSO events (69 in 2007); point and non-point sources of pollutants
	
	Freshwater Resources
	• Limited water availability for people, farms, and fish: Low summer flows in WRIA 17, 18, 19; extreme high flows in WRIA 18 & 19; critical water shortages in Neah Bay; many instream flows not established
	• Alteration of surface hydrology**:** Major alteration of flows in Elwha and Dungeness Rivers
	
	Invasive Species
	• Potential negative ecological impacts on native populations: Japanese knotweed, European bittersweet, reed canary grass, and butterfly bush infestations along riparian corridors; Japanese oyster drill, tunicates, and green crab in marine waters
	
	Artificial propagation
	• Fish hatcheries: Potential negative ecological and genetic impacts on natural salmon and other hatchery populations resulting from salmon production; Shellfish production: Not identified as a local issue
	
	Harvest
	• Fishing and bycatch: Strait salmon runs are heavily impacted by Canadian harvest; Logging and hunting practices: Local pressures need to be identified
	
	Localized climate change impact
	• Sea level rise: Predicted loss of tidal flats, complete loss of Dungeness Spit, loss of 58% of estuarine and marine shoreline beaches
	• Changes in hydrology due to loss of permanent snowfields and glaciers
	
	Other
	• Population increase by 2025: 23% in Clallam County (more than 14,000 people) and 55% in Jefferson County (more than 14,000 people)
	• Harmful algae blooms: localized occurrences of seasonal or occasional shellfish area closures from paralytic shellfish poisoning and amnesic shellfish poisoning
		A: Protect Intact Ecosystem Processes, Structures, and Functions
		• Update and implement regulatory programs: Complete Critical Area Ordinance update (City of Sequim); complete Shoreline Master Programs updates (Clallam County, Port Angeles, Sequim, Jefferson County)
		• Protect and conserve water flows: Establish and maintain instream flows for WRIAs 17, 18, and 19; complete and/or implement 2514 plans; improve aquifer resources in the Dungeness and other flow limited basins
		• Protect and support long-term stewardship of working farms, forests and aquatic lands
		
		B: Restore Ecosystem Processes, Structures, and Functions
		• Implement priority ecosystem restoration projects:
		  ○ Complete Elwha River System Restoration Project
		  ○ Implement Salmon Recovery three-year workplans for WRIAs 17, 18, 19
		  ○ Implement existing Marine Resource Plans
		  ○ Implement Forest Practices Habitat Conservation Plans
		  ○ Implement Road Maintenance & Abandonment Plans
		  ○ Implement Conservation District Work Plans
		  ○ Implement Dungeness River management plans
		• Clean up and restore the Port Angeles Harbor and waterfront through the harbor planning process
		
		C: Reduce the Sources of Water Pollution
		• Prevent pollution: Implement Sequim-Dungeness and East Jefferson Clean Water District Strategies to address TMDLs and shellfish downgrades; enhance capacity to address and mitigate threats and impacts from marine vessel traffic
		• Manage urban stormwater runoff: Implement NPDES permits; update and implement Stormwater Management Plans and Codes (Clallam County, City of Sequim)
		• Upgrade and manage wastewater treatment plants: Implement Carlsborg Urban Growth Area Wastewater Treatment and Water Reuse strategy
		• Manage on-site and septic systems: Implement Clallam and Jefferson counties on-site septic management programs
		• Prioritize inwater and upland toxic clean up sites: Close and remediate the Makah Tribe Warmhouse Beach Open Dump and develop a solid waste transfer and reuse facility
		
		D: Work effectively and efficiently together as a system on priority needs
		• Coordinated long-term strategy
		  ○ Coordinate planning and implementation: Start with shorelines, land use, and water supply planning
		  ○ Coordinate protection and restoration actions identified in major plans: Start with salmon recovery, water supply, and marine nearshore plans

Draft Action Area Priorities – Hood Canal Action Area

Ecosystem benefits provided by action area

Unique Species
- Unique summer chum salmon stock spawns only in Hood Canal and Eastern Strait of Juan de Fuca

Unique Habitat Type and Ecosystem Processes
- Skokomish River is largest salmon producing river in West Sound
- Marine/estuary: Migration corridor for fish, bird and marine mammal species along nearshore
- Intact upland forests: In and around Olympic National Park, Forest, and Wilderness Areas provide soil and water retention, wildlife habitat

Freshwater Resources
- Water and/or hydropower supply for City of Bremerton, City of Port Townsend, City of Tacoma, eastern communities of Kitsap County

Food and Timber
- Timber, pulp and secondary forest product production
- Internationally renowned oysters
- Commercial, recreational and tribal fishing and shellfishing including salmon and trout, geoduck, oysters, clams, Dungeness crab and Spot Prawn
- Hatcheries provide harvest opportunities and population stability while wild salmon stocks rebuild (Summer chum salmon; reintroduction of spring Chinook and other species to North Fork Skokomish)

Recreation and Tourism
- Boating, sailing, water skiing, diving, hunting,, sportfishing, Olympic National Park, Fort Worden
- Vacation residences.

Community and Economy
- Hood Canal Bridge provides transportation linkage between Kitsap and Olympic peninsulas.
- Homeland security: US Navy Submarine Base at Bangor and Naval Munitions Center at Indian Island.
- Port Gamble S'Klallam Tribe
- Skokomish Tribe

Local threats to ecosystem benefits

Habitat Alteration
- **Marine/estuary:** Loss of estuary habitat and pocket estuaries; loss of recreational, tribal, and commercial shellfish beds through habitat modifications
- **Marine nearshore**: Disruption of marine shoreline processes from roads, homes, and shoreline armoring that have altered sediment supply, vegetation, water quality and freshwater inputs.
- **Freshwater**: Blocked habitat including North Fork of Skokomish blocked by Cushman dam, South Fork seasonally blocked by habitat degradation and multiple culverts; Loss of floodplain processes and functions due to decreased flood storage capacity; sediment aggradation; loss of wetlands, altered floodplain connectivity, hydrology, channel network, and riparian area, loss of channel function by simplification and wood removal
- **Upland**: Loss of working farms and forests through conversion

Pollution
- **Toxics**: Industrial pollution from mill site in Port Gamble Bay.
- **Bacterial contamination and pathogens**: loadings from human and animal waste lead to shellfish and recreational swimming beach closures.
- **Nutrient loading**: significant low dissolved oxygen conditions
- **Surface water runoff impacts**: Pollutants from stormwater and agricultural runoff.

Freshwater Resources
- Major alterations in flows: Union, Skokomish, Big and Little Quilcene rivers.
- Limited water availability for people, farms and fish: year round low flows WRIA 14b and 15; seasonal low flows and extreme high flows WRIA 16 and 17; Many instream flows not established

Invasive Species
- Potential negative ecological impacts on native populations: Invasive tunicates, Japanese knotweed, reed canary grass, giant hogweed, yellow flag iris, purple loosestrife and European bittersweet.

Artificial Propagation
- Fish hatcheries: Salmon production has potential negative ecological and genetic impacts on natural populations and other hatchery populations; replacement of indigenous populations by introduced strains from out of the basin may compromise ability to develop viable, locally adapted populations; Shellfish production: not identified as a local issue

Harvest
- Fishing and bycatch, logging and hunting practices: Local pressures need to be identified

Localized climate change impacts
- Sea level rise, loss of estuarine beaches, increased shoreline flooding.
- Reduction in glaciers and snowfields and associated hydrologic impacts.

Other
- Harmful algal blooms, biotoxin and pathogen outbreaks.
- Conflicting use values of marine shorelines.
- Increase in population by 2025: 35% (more than 100,000 people) in Kitsap, Mason and Jefferson counties.

Priority action area strategies

A: Protect Intact Ecosystem Processes, Structures and Functions
- Protect high value habitat: Acquire high priority marine and freshwater habitat identified in salmon recovery and other local plans support and protect critical resources and ecosystem processes, structure and function; develop local acquisition strategy
- Update and implement regulatory programs: Complete Shoreline Master Program updates for Mason, Jefferson and Kitsap counties; Complete Critical Area Ordinance update for Mason County
- Protect and conserve water flows: Establish or update and implement instream flow rules for WRIA 14b, 15, 16, and 17
- Protect working forests, particularly on the Tahuya Peninsula
- Protect and support long-term stewardship of working farms, forests, and aquatic lands

B: Restore Ecosystem Processes, Structures and Functions
- Implement priority ecosystem restoration projects:
  - Prioritize and implement species recovery plans including: Hood Canal Summer Chum, Skokomish Chinook, mid-Hood Canal Chinook and Bull Trout; implement in coordination with the Shoreline Master Program restoration plans
  - Complete Skokomish River and Quilcene delta restoration projects.
  - Implement Forest Practices Habitat Conservation Plans; implement Road Maintenance and Abandonment Plans; decommission or maintain USFS roads
- Complete the Skokomish River Ecosystem Restoration and Flood Damage Reduction Study

C: Reduce Sources of Water Pollution
- Prevent pollution:
  - Establish and implement a Pollution Identification and Correction Program in Jefferson and Mason counties, Port Gamble S'Klallam and Skokomish tribes; continue to implement program in Kitsap county
  - Develop and implement TMDL and 303d category 4b plans
  - Implement shellfish protection district plans: (East Jefferson, Annas Bay, Lower Hood Canal)
  - Investigate, and if appropriate, implement Hood Canal as a No Discharge Zone for boats
  - Investigate opportunities for water reuse at existing future sewage treatment facilities
- Manage urban stormwater runoff: Update & implement Stormwater Management Plans and Codes (Mason, Jefferson, Kitsap counties, City of Port Townsend, Port Gamble S'Klallam and Skokomish tribes)
- Upgrade and manage wastewater treatment plants: Complete planned sewer projects for Belfair, Skokomish/Potlach/Hoodsport, Port Hadlock, Paradise Bay, Dosewallips State Park, and Brinnon public facilities.
- Manage on-site and septic systems: Update and implement on-site sewage system management plans and regulations; address poorly function systems through the action area
- Establish ambient water quality and quantity monitoring programs for surface and ground water.
- Prioritize inwater and upland toxic clean up sites: Clean up industrial pollution in Port Gamble bay.

D: Work effectively and efficiently together as a system on priority needs
- Coordinated long-term strategy:
  - Hood Canal Coordinating Council and Hood Canal Dissolved Oxygen Program to work collaboratively to develop and implement actions to respond to research findings from the Hood Canal Dissolved Oxygen Program.
  - Coordinate and integrate of marine and watershed groups to improve coordinated planning, as well as implementation efficiency and effectiveness; synthesize existing recommendations
  - Integrate and prioritize project needs for ecosystem processes, structure, and function.

E: Other
- Continue Hood Canal dissolved oxygen research.

Draft Action Area Priorities– North Central Action Area

Ecosystem benefits provided by action area	Local threats to ecosystem benefits	Priority action area strategies

Unique Habitat Type and Ecosystem Processes
• Freshwater: Lowland stream habitats on Kitsap Peninsula support chum, coho, cutthroat and steelhead
• Marine nearshore: Supports chum, pink, and Chinook salmon from throughout Puget Sound
 	
Food and Timber (harvest)
• Shellfish production and harvest
• Recreational and tribal fishing
 	
Recreation and Tourism
• Boating, state parks, shoreline access
 	
Community and Economy
• Water-oriented communities
• Commerce, military, and marine transportation hub
• Homeland security: Keyport Naval Undersea Warfare Center, Puget Sound Naval Shipyard; Manchester Fuel Depot
• Model program for water quality improvements via "pollution identification and correction"
• Port Gamble S'Klallam Tribe
• Suquamish Tribe
	Habitat Alteration
	• **Marine nearshore:** 49% shoreline modified, especially in south part of action area and Bainbridge Island; 291 piers and docks, 108 boat ramps on Bainbridge Island
	• **Upland:** Loss of working farms and forests through conversion for urban and suburban uses; 12% impervious surface overall with considerable variation by watershed
	
	Pollution
	• **Toxics:** Hundreds of acres of contaminated sediments, especially at Sinclair and Dyes inlets, Liberty Bay, and Eagle Harbor from a history of naval and industrial activities; groundwater contamination from Eagle Harbor superfund site
	• **Bacterial contamination**: threatened and closed shellfish growing areas and 7 local streams closed for human contact
	• **Nutrient loading**: low dissolved oxygen in bays, especially in areas of poor flushing
	• **Surface water runoff impacts**: CSO and SSO events
	
	Freshwater Resources
	• **Limited water availability for people, farms and fish**: streamflows dependent on precipitation and groundwater; 80% of drinking water comes from groundwater; streams in urbanized watersheds are subject to low summer flows and peak storm flows.
	
	Invasive Species
	• Potential negative ecological impacts on native populations: Knotweed and other non-native invasive species in some locations
	
	Artificial propagation
	• Fish hatcheries: Salmon production has potential negative ecological and genetic impacts on natural salmon and other hatchery populations; Salmon net pens: potential commercial production of Atlantic salmon in Rich Passage unknown; Shellfish production: not identified as a local issue;
	
	Harvest
	• Fishing and bycatch, logging, and hunting practices: Local pressures need to be identified
	
	Localized climate change impact
	• Sea level rise: Loss of beach land by 2050, converted to tidal flats
	
	Other
	• Population increase by 2025: 21% in Kitsap County (more than 65,000 people)
		A: Protect Intact Ecosystem Processes, Structures and Functions
		• Growth and development: Implement local portions of Vision 2040 plan; coordinate with local transportation planning
		• Protect high value habitat: Acquire "1000 Acre Woods" critical habitat north of Gig Harbor; protect remaining intact nearshore habitat
		• Update and implement regulatory programs: Complete Shoreline Master Program updates (Gig Harbor, Bremerton, Kitsap County); Complete Critical Area Ordinance updates (Port Orchard)
		• Protect and conserve water flows:
		  ○ Manage lands and runoff to ensure plentiful and clean groundwater recharge
		  ○ Implement water conservation and reclaimed water development and use
		
		B: Restore Ecosystem Processes, Structures and Functions
		• Implement priority ecosystem restoration projects in existing plans:
		  ○ Implement Salmon Recovery three-year workplans
		  ○ Complete Chico Creek, Carpenter Creek and other salmon restoration priority projects
		  ○ Implement recommendations of Gig Harbor Basin Plan, and Crescent Valley Biodiversity Stewardship Plan in a coordinated way
		• Implement stewardship incentives to increase private landowner restoration projects: Conduct outreach and assist property owners with replacement of hard bulkheads with soft beach protection
		
		C: Reduce Sources of Water Pollution
		• Prevent pollution:
		  ○ Reduce bacteria contamination in shellfish growing areas, other marine nearshore areas and streams
		  ○ Control sources of pollution that re-contaminate sediment cleanup sites; support Navy ENVVEST project and other opportunities to cooperate to reduce pollution
		  ○ Implement KGI Watershed Action Plan
		  ○ Focus education and outreach activities to reduce pollution from live-aboards, boating and water-based activities
		• Manage urban stormwater runoff:
		  ○ Use and increase site-appropriate LID techniques; encourage use of technologies and approaches that replicate natural ground water systems to manage for future planned growth
		  ○ Implement NPDES permits
		• Upgrade wastewater treatment plants: Enforce already required modifications to sewer systems to avoid further pollution
		• Manage on-site and septic systems: Implement Pierce and Kitsap counties onsite management plans; continue to implement pollution identification and correction program
		
		D: Work effectively and efficiently together as a system on priority needs
		• Coordinated long term strategy:
		  ○ Continue to improve WRIA 15 salmon recovery coordination for implementation
		  ○ Continue coordination among West Sound Watersheds, KGI Watershed Council, and Shellfish Partners
		  ○ Integrate nearshore and marine efforts (e.g., Shoreline Master Program updates) with watershed recovery efforts (e.g., Critical Areas Ordinance updates, Salmon Recovery Plan)
		  ○ Continue coordination with the Navy and other key stakeholders

Draft Action Area Priorities – San Juan Action Area

Ecosystem benefits provided by action area	Local threats to ecosystem benefits	Priority action area strategies

Unique Species
• Pinto abalone at risk of extinction
 	
Unique Habitat Type and Ecosystem Processes
• Marine nearshore: Habitat for 22 populations of migrating Chinook salmon, supporting Orca populations and marine birds
• Marine nearshore: Extensive forage fish spawning habitat
• Marine nearshore: 70% of rocky reef habitat in Puget Sound
• Marine: Rich diversity of habitats and marine life
 	
Food and Timber (harvest)
• Boutique agriculture industry
• Shellfish industry and crab fishery
• Recreational and tribal fishing and crabbing
 	
Recreation and Tourism
• Moran State Park, American & English Camp, Lime Kiln Park, Turtleback Mountain, Lopez Hill
• Local & international tourist destination (whale watching, kayaking, biking, boating)
 	
Community and Economy
• Vacation residences
• Lummi Tribe
	Habitat Alteration
	• **Marine:** Habitat degradation from derelict gear
	• **Marine/estuary**: Loss of eelgrass habitat; 11 of 27 historical pocket estuaries at risk of degradation
	• **Marine nearshore:** soft shoreline sensitive to modification
	
	Pollution
	• **Toxics:** Potential for localized oil spills; potential for significant pollution from a major oil spill in the Strait
	• **Bacterial contamination**: Inadequate waste management to handle summer influx of visitors; Boater pollution in bays and marinas; potential problems from poorly treated wastewater from Victoria B.C. outfall that reaches islands
	• **Surface water runoff impacts**: Localized pollutant loading from stormwater runoff (e.g., Friday Harbor, ferry landings)
	
	Freshwater Resources
	• **Limited water availability for people, farms and fish:** Groundwater dependent system is vulnerable to groundwater pollution from septic systems and alterations to surface flow**;** increased future water demand
	• **Saltwater intrusion into drinking water supply** (San Juan Island, Lopez)
	
	Invasive Species
	• Potential negative ecological impacts on native populations: Tunicates, Japanese seaweed, purple varnish clams
	
	Artificial Propagation
	• Salmon production has potential negative ecological impacts on natural populations and other hatchery populations; Shellfish production: specific local issues not yet identified
	
	Harvest
	• Fishing and bycatch: commercial and recreational harvest rates of salmon and groundfish may reduce recovery potential; Logging and hunting practices: Local pressures need to be identified
	
	Localized climate change impact
	• Sea level rise and ocean acidification: immediate and longer-term impacts are not well understood
	
	Other
	• Population doubles in summer months
	• Increase in year-round population by 2025: 60%, more than 8,000 people
		A: Protect Intact Ecosystem Processes, Structures and Functions
		• Protect high value habitat:
		  o Acquire priority habitats identified in the Salmon Recovery Plan
		  o Implement San Juan Marine Stewardship Area Plan
		  o Implement the San Juan Marine Stewardship Area Monitoring Plan
		  o Implement San Juan Initiative recommendations
		  o Protect rock fish habitat
		• Update and implement regulatory programs:
		  o Complete Critical Area Ordinance updates and Shoreline Master Program update (San Juan County); Limit alterations on shorelines sensitive to modifications
		• Protect and conserve water flows: Protect existing surface and ground water
		
		B: Restore Ecosystem Processes, Structures and Functions
		• Implement priority ecosystem restoration projects:
		  o Implement Salmon Recovery three-year workplan for WRIA 2
		  o Quantify impacts and strategically remove derelict fishing gear
		
		C: Reduce Sources of Water Pollution
		• Prevent pollution: Maintain local oil spill response programs
		• Manage urban stormwater runoff: Update and implement Stormwater Management Plans and Codes (San Juan County); Implement Low Impact Development for new development
		
		D: Work effectively and efficiently together as a system on priority needs
		• Coordinated long-term strategy:
		  o Integrate the objectives of San Juan Marine Stewardship Plan, the Shoreline Master Program and Critical Areas Ordinances so that they are consistent
		• Implement stewardship and outreach programs and provide technical assistance focused on protection and prevention with residents and tourists
		
		E: Other
		• Implement local aspects of Orca Recovery Plan, including whale watching plan
		• Investigate causes of marine bird declines

Draft Action Area Priorities – South Central Action Area

Ecosystem benefits provided by action area

Unique Species
- More than 17 unique populations of salmon, trout and steelhead

Unique Habitat Types and Ecosystem Processes
- Freshwater: Core area for bull trout recovery (Puyallup/White)
- Upland: intact upland forest in and around Mt. Rainer National Park

Freshwater Resources
- Water supply for City of Seattle, City of Tacoma, and surrounding metropolitan areas; many water supply watersheds are protected

Food and Timber (harvest)
- Recreational harvest: Lake Washington sockeye and Issaquah Creek Chinook
- Significant agriculture areas
- Commercial, recreational, and tribal fishing
- Hatcheries provide harvest opportunities and population stability while wild salmon stocks rebuild: White River spring Chinook, Puyallup steelhead

Recreation and Tourism
- Mount Rainer National Park, Mount Baker-Snoqualmie National Forest, Lake Washington, Lake Tapps, Lake Sammamish, Mountain to Sound Greenway, boating, sport fishing, diving

Community and Economy
- Population center for Puget Sound with more than three million residents
- Commercial & industrial hub, generating 63% of the gross state product
- Significant rural areas
- Home of the North Pacific fishing fleet
- International port facilities (Tacoma and Seattle) and cruise ship terminal
- Largest wastewater treatment system in the state with innovative Brightwater Treatment Plant
- Marine trades
- Leadership on low impact development, including Built Green and Green Tools programs
- Muckelshoot Tribe
- Puyallup Tribe

Local threats to ecosystem benefits

Habitat Alteration
- **Marine/estuary**: Major loss of estuary habitat in Duwamish and Puyallup River estuaries and creation of an artificial estuary created by the Ballard Locks
- **Marine nearshore**: 75% shoreline modified, including overwater structures, shoreline armoring, dredging, filling, and marine shoreline vegetation removal
- **Freshwater**: Over 100 miles of blocked habitat with dams and diversions (Green, White, Puyallup), Significant alteration of rivers, floodplains and shorelines; river straightening and channelization (Duwamish, Puyallup, Cedar, Sammamish); floodplain development, Extensive alteration of surface hydrology, especially Lake Washington, Ballard Locks, White, Cedar, Puyallup, Duwamish and Black Rivers, Significant diversion of water to drinking water supply and wastewater systems to Puget Sound, altering migration routes for salmon, modifying hydrology
- **Upland**: Loss of working farms and forests through conversion to; 34% impervious surface in urban growth area; increasing urban and rural development

Pollution
- **Toxics**: Duwamish and Commencement Bay Superfund sites; recontamination of previously cleaned up sites
- **Bacterial pollution**: Failing septic systems in nearshore areas and throughout watersheds; agricultural runoff
- **Air pollution**: Significant source from automobile emissions
- **Nutrient loading**: Especially in areas with limited flushing, (Shilshole Bay, Quartermaster Harbor, and Dumas)
- **Surface water runoff impacts**: Major source of urban stormwater runoff and pollutants into Puget Sound

Freshwater Resources
- Limited water availability for people, farms, and fish: Low summer flows and high peak stream flows in WRIAs 8,9,10/12; low mainstem winter flows
- Increased future water demand for higher population
- Localized areas of saltwater intrusion into groundwater

Invasive Species
- Potential negative ecological impacts on native populations: Japanese knotweed, reed canary grass, and butterfly bush infestations along riparian corridors; non-native fish species in most lakes; nutria; marine invasive species including tunicates

Artificial Propagation
- Fish hatcheries: Salmon production in Lake Washington/Sammamish, Green and White rivers have potentially negative ecological and genetic impacts on natural salmon; Shellfish production: not identified as a local issue

Harvest
- Fishing and bycatch, logging, and hunting practices: Local pressures need to be identified

Localized climate change impact
- Significant source of Puget Sound carbon emissions as 50% of carbon emissions are transportation related
- Sea level rise: Risk of conversion of upland to shoreline; loss of estuarine beaches; limited sea level rise impacts in Tacoma

Other
- Population increase by 2025: 34% in King, Pierce, Snohomish counties (more than 1,000,000 people)

Priority action area strategies

A: Protect Intact Ecosystem Processes, Structures and Functions
- Protect high value habitat:
  - Acquire high priority habitats (e.g., Lower Puyallup transition zone habitat, White River PSE properties, South prairie Creek, Middle Puyallup forest lands)
  - Implement White River Biodiversity Stewardship Plan
  - Implement Habitat Conservation Plans (forest & fish plans, Cedar, Green, Tacoma)
  - Implement Pierce and King Counties transfer of development rights programs, cluster development, and increase density in urban areas; utilize conservation easements
  - Update and implement regulatory programs: Shoreline Master Program updates (King and Pierce Counties, all relevant cities); Critical Area Ordinance updates (all relevant cities); restrict additional shoreline armoring
- Protect and conserve water flows: Complete regional water supply planning process; establish and implement instream flow agreements in Green, White, Lake Washington, Puyallup; promote water conservation and reclaimed water use
- Protect and support long-term stewardship of working farms, forests and aquatic lands

B: Restore Ecosystem Processes, Structures and Functions
- Implement priority ecosystem restoration projects:
  - Implement Salmon Recovery three-year workplans for WRIAs 8, 9, 10/12
  - Implement existing basin protection and restoration plans in King and Pierce Counties
  - Implement large-scale floodplain reconnection projects to restore habitat and protect public safety
  - Provide fish passage at Howard Hanson Dam on Green River, Electron Dam on the Puyallup River and Buckley Diversion dam on the White River
  - Restore upper Green River riparian corridor, increase channel complexity, and decommission old logging roads
  - Set levees back along the Cedar, Sammamish, Green, Puyallup, White and Carbon Rivers
  - Protect and restore Duwamish and Puyallup estuary transition zone habitats.

C: Reduce Sources of Water Pollution
- Work with Puyallup Tribe, King County Public Health, and homneowners to restore shellfish beds in Quartermaster Harbor
- Prevent pollution: Coordinated implementation of existing clean water plans and TMDLs; implement Puyallup River Watershed Action Plans
- Manage urban stormwater runoff: Implement significant stormwater retrofits; implement low impact development strategies; implement NPDES permits; build on STORM education and outreach program; implement pharmaceuticals take-back program
- Manage on-site and septic systems: Implement Pierce, King and Snohomish Counties onsite management plans; expand Pierce County's onsite grant and loan program.
- Prioritize inwater and upland toxic clean up sites: Implement Superfund cleanup at Duwamish River, Commencement Bay

D: Work effectively and efficiently together as a system on priority needs
- Coordinated long-term strategy:
  - Continue to encourage tribal participation in recovery efforts
  - Integrate resource planning across water quality, water quantity & salmon recovery—including updates to Critical Area Ordinances and Shoreline Master Programs
  - Continue to advance regional cooperation in South Central Puget Sound
  - Implement Vision 2040 plan and coordinate growth planning with water quality and quantity infrastructure investment

E: Other
- Continue hatchery production for species conservation in White River
- Continue Kokanee conservation planning and implementation
- Integrate hatchery production at Issaquah Creek and Soos Creek Hatcheries with salmon recovery

Draft Action Area Priorities– South Sound Action Area

Ecosystem benefits provided by action area	Local threats to ecosystem benefits	Priority Action Area Strategies

Unique Habitat Types and Ecosystem Processes
• Marine/estuary: Nisqually River is largest undeveloped estuary in Puget Sound and largest National Wildlife Refuge in Puget Sound; important salmon, wildlife and bird habitat
• Marine/estuary: Nursery area for multiple Chinook populations
• Shoreline: Large areas of intact shoreline
• Upland: Unique prairie habitat with endemic species
 	
Food and Timber (harvest)
• Nationally renowned shellfish; one of the largest shellfish producing areas in state
• Recreational and tribal clamming, crabbing and fishing
 	
Freshwater Resources
• Hydropower for City of Centralia and City of Tacoma
• Leadership in reclaiming municipal wastewater
 	
Recreation and Tourism
• Recreation: clamming, crabbing, Mt. Rainier National Park, kayaking, boating
 	
Community and Economy
• Numerous commercial and residential centers
• Center of government
• Ports of Olympia and Shelton
• Homeland security: Fort Lewis & McCord Air Force Base
• Nisqually Tribe
• Squaxin Tribes
	Habitat Alteration
	• **Marine/estuary**: Loss of riparian and estuary habitat, some intertidal alterations
	• **Marine nearshore:** 40% shoreline modified; BNSF rail along eastern shoreline
	• **Freshwater:** Blocked habitat including dams on Deschutes and Nisqually Rivers; fill for I-5 on Nisqually
	• **Upland**: Loss of prairie habitat through land conversion; loss of hydrologic function from existing and expanding impervious surface
	
	Pollution
	• **Toxics**: Industrial pollution in bays and contaminated sediments including Oakland Bay, Chambers Bay, Budd Inlet
	• **Bacteria contamination:** Bacteria and pathogens from human and animal waste
	• **Nutrient loading: low dissolved oxygen** in Budd Inlet, Case Inlet, and Carr Inlet
	• **Air quality**: Poor air quality due to particulate pollution (wood smoke, diesel emissions, etc.)
	
	Freshwater Resources
	• Low flows in WRIA 12; flow issues in WRIA 13
	
	Invasive Species
	• Potential negative ecological impacts on native populations
	
	Artificial propagation
	• Fish hatcheries: Salmon production has potential negative ecological and genetic impacts on natural populations and other hatchery populations and may compromise ability to develop viable, locally adapted populations; Shellfish production: Potential ecosystem impacts related to some aquaculture practices
	
	Harvest
	• Fishing and bycatch, logging, and hunting practices: Local pressures need to be identified
	
	Localized climate change impact
	• Sea level rise: Significant loss of estuarine beaches; inundation of tidal flats; flooding at downtown Olympia
	
	Other
	• Conflicting use values of marine shorelines
	• Increase in population by 2025: 47%; more than 450,000 people, in Thurston, Pierce, Mason counties
		A: Protect Intact Ecosystem Processes, Structures and Functions
		• Protect high value habitat:
		  ○ Protect undeveloped shoreline
		  ○ Acquire high priority marine and fresh water habitat, including: Gull Harbor in Budd Inlet; Lower Eld Inlet Shoreline Conservation; Twin River Ranch at Oakland Bay; Harstine Island Shoreline; Filucy Bay Farm and Shoreline; Devils Head; and Lower Ohop Protection Project
		• Update and implement regulatory programs: Complete and implement Shoreline Master Program updates; Complete and implement Critical Area Ordinances
		• Protect and conserve water flows: Continue and expand LOTT Alliance water reuse facilities and nutrient removal
		
		B: Restore Ecosystem Processes, Structures and Functions
		• Implement priority ecosystem restoration projects:
		  ○ Complete restoration of Nisqually estuary
		  ○ Implement Salmon Recovery three-year workplans (WRIAs 10/12, 11, 13/14, 15)
		  ○ Restore shorelines using WRIA 15, and WRIA 11, 13, 14 nearshore assessments
		  ○ Implement existing basin protection and restoration plans in Key Peninsula, Clover/Chambers, and Nisqually basins; develop plans for other South Sound basins
		  ○ Develop and implement a multi-species recovery and management plan for salmonids and forage fish not addressed in Chinook Recovery Plans.
		  ○ Support habitat and shoreline restoration efforts underway in Budd Inlet and Hammersley-Oakland Bay
		  ○ Develop and implement conservation and recovery plans for prairie dependent species
		• Support and encourage Port of Shelton and Port of Olympia strategic redevelopment plans, including stormwater retrofits
		
		C: Reduce Sources of Water Pollution
		• Reopen key shellfish producing areas in North Bay, Oakland Bay, Henderson Inlet, Burley Lagoon by reducing pollution as identified below.
		• Prevent pollution: Implement existing Watershed Action Plans, Shelllfish Protection Districts, and other water pollution cleanup plans in a coordinated way; Implement the Oakland Bay Sa-Heh-Wa-Mish Initiative and the Oakland Bay Clean Water District strategies.
		• Manage urban stormwater runoff: Develop and Implement LID where feasible; retrofit outdated, existing legacy systems; support development of local surface water management utilities and associated fees
		• Upgrade and manage wastewater treatment plants: Shelton, LOTT, and Chambers Bay
		• Manage on-site and septic systems: Implement on-site management plans for Pierce, Thurston, Mason and Kitsap counties, prioritize areas with shellfish production, low dissolved oxygen, and high nutrient and pathogen loading; Implement Shellfish Partners, and enhance onsite grants and loans programs
		• Prioritize inwater and upland toxic clean up sites: Clean up industrial pollution in Budd Inlet, Oakland Bay, and Chambers Bay
		
		D: Work together as a system on priority actions
		• Coordinated long-term strategy:
		  ○ Continue recent collaborative work in watershed coordination; investigate whether more formal collaboration is needed
		  ○ Integrate nearshore and marine efforts (e.g., Shoreline Master Program) with watershed recovery efforts (e.g., Critical Areas Ordinances, Salmon Recovery Plan).
		
		E: Other
		• Maintain Nisqually hatchery operations to conserve Chinook species
		• Implement Ecology best management practices guidelines for geoduck aquaculture
		• Resolve shoreline use conflicts

Draft Action Area Priorities– Whatcom Action Area

Ecosystem benefits provided by action area	Local threats to ecosystem benefits	Priority action area strategies

Unique Species
• Two unique spring run Chinook populations in Nooksack River
• Historically significant Cherry Point herring spawning area
 	
Unique Habitat Type and Ecosystem Processes
• Marine/estuary: Forage fish habitat
• Upland: Migratory bird habitat
• Intact upland forests: In and around Cascades National Park
 	
Freshwater Resources
• Lake Whatcom watershed provides water for half of Whatcom County
 	
Food and Timber (harvest)
• Large agriculture: Significant dairy industry (ranks in top 5 dairy regions nationally), 75% of US raspberry production, blueberries.
• Shellfish aquaculture and Dungeness crab fishery (Tribal, commercial and recreational)
• Commercial, tribal, and recreational fishing
• Hatcheries to provide harvest opportunities and population stability while wild salmon stocks rebuild (South Fork Nooksack spring Chinook, North Fork Nooksack spring Chinook)
 	
Recreation and Tourism
• Mount Baker, North Cascades, rafting, hiking, kayaking, skiing, birding, Birch Bay, Nooksack River, Lake Whatcom
 	
Community and Economy
• Rural communities
• Proximity to recreation draws outdoor enthusiasts to reside in area
• Lummi Tribe
• Nooksack Tribe
	Habitat Alteration
	• **Marine**: 3,000+ derelict crab pots and multiple fishing nets in Cherry Point reach
	• **Marine/estuary:** Loss of native eelgrass meadows due to shoreline modification and dredging in inner Bellingham Bay
	• **Marine nearshore:** 36% shoreline modified; Degradation of marine riparian vegetation and function
	• **Freshwater:** Loss of mainstem and floodplain river habitat; culverts and dams disrupt hydrology and/or block habitat
	• **Upland**: Loss of forest cover resulting in landslides
	
	Pollution
	• **Industrial pollution**: Bellingham Bay includes toxics, metals, PAHs, nutrients
	• **Bacterial pollution:** nutrients and pathogens from livestock waste lead to shellfish closures in Drayton Harbor, Portage Bay, Chuckanut Bay
	• Low dissolved oxygen, mercury and phosphorous in Lake Whatcom
	• **Surface water runoff impacts**: Bellingham Bay, Birch Bay, Drayton Harbor
	
	Freshwater Resources
	• Low instream flows and many established instream flows not being met
	
	Invasive Species
	• Potential negative ecological impacts on native populations: tunicates in Blaine Marina, Drayton Harbor, Chucknut Bay Birch Bay; rock snot in Chuckanut area; knotweed in Nooksack estuary; spartina in Birch Bay
	
	Artificial propagation
	• Salmon production has potential negative ecological and genetic impacts on natural populations and other hatchery populations; Fall Chinook hatchery production has potential negative impacts on native spring-run Chinook
	
	Harvest
	• Fishing and bycatch: Nooksack Chinook salmon runs heavily impacted by Canadian harvest; Logging and hunting practices: Local pressures need to be identified
	
	Localized climate change impact
	• Sea level rise: loss of swamp, marsh and estuarine beach in Nooksack Delta
	• Potential hydrologic changes in Middle and South forks of the Nooksack due to loss of glaciers and earlier snow melt
	
	Other
	• Increase in population by 2025: 48%, more than 79,000 people
		A: Protect Intact Ecosystem Processes, Structure and Functions
		• Protect high value habitat: Develop strategy to protect large intact marine and nearshore habitat
		• Update and implement regulatory programs: Complete and implement Critical Area Ordinance updates and the County's and Cities' Shoreline Master Programs; Implement new land use measures and mitigation alternatives through implementation of the Birch Bay Watershed characterization Pilot Study.
		• Protect and conserve water flows: Implement Instream Flow Action Plan for WRIA 1; address illegal water withdrawals
		• Protect and support long-term stewardship of working farms, forests and aquatic lands: Limit forest and farm conversions; ensure that forest practices are enforced.
		
		B: Restore Ecosystem Processes, Structure and Functions
		• Implement priority ecosystem restoration projects in existing plans:
		  ○ Implement Salmon Recovery 3-year workplan for WRIA 1
		  ○ Implement the Shoreline Master Program restoration plan coordinated with salmon recovery efforts
		• Quantify impacts from derelict fishing and strategically remove starting with Cherry Point
		• Enhance habitat on forested and resource lands
		
		C: Reduce Sources of Water Pollution
		• Prevent pollution:
		  ○ Implement TMDL plans in Drayton Harbor, Whatcom Creek, Lower Nooksack Basin, Lake Whatcom
		  ○ Clean up Drayton Harbor, Birch Bay, and Portage Bays: Implement Shellfish Protection Plans; complete and implement other water quality plans in a coordinated way.
		• Manage stormwater runoff:
		  ○ Implement NPDES permits
		  ○ Implement Lake Whatcom, Birch Bay and Bellingham Bay Comprehensive Stormwater Management Plans
		  ○ Use and increase site-appropriate LID techniques
		  ○ Implement stormwater retrofits in Bellingham
		  ○ Prioritize local stormwater actions across existing plans, and improve regulatory compliance for discharges.
		• Manage on-site and septic systems: implement O&M plans with initial focus on marine recovery areas; and Lake Whatcom; Improve regulatory enforcement and compliance for reduction of nutrient and pathogen loading.
		• Prioritize inwater and toxic cleanup sites: Continue to clean up Bellingham Bay (Bellingham Bay Pilot Program).
		
		D: Work effectively and efficiently together as a system on priority needs
		• Coordinated long-term strategy:
		  ○ Continue to work cooperatively with farming community to enhance habitat on farm land and maintain the agricultural land base.
		  ○ Improve cooperative cross-agency (local, regional, state, federal, tribal) coordination, implementation, and enforcement.
		  ○ Integrate and coordinate nearshore and marine protection and restoration efforts (e.g., pollution clean up, Shoreline Master Program, Cherry Point Marine Managed Area) with watershed recovery efforts (e.g., Critical Areas Ordinances, Instream Flow Action Plan, Salmon Recovery Plan, MRC plans, Shellfish District Protection Plans).
		• Continue to work cooperatively with Canadian neighbors on transboundary projects
		
		E: Other
		• Continue to support South Fork Chinook Supplementation plan.

Draft Action Area Priorities – Whidbey Action Area

Ecosystem benefits provided by action area	Local threats to ecosystem benefits	Priority action area strategies

Unique Species
• Core bull trout populations
 	
Unique Habitat Types and Ecosystem Processes
• Marine/estuary: Important hake spawning area (Port Susan)
• Marine/estuary: Three large estuaries provide migratory cross-roads for many salmon populations, significant bird habitat, some of the largest eelgrass beds in Puget Sound, significant kelp beds (west coast of Island County)
• Freshwater: Major Chinook producing rivers (Skagit, Stillaguamish, Snohomish systems); major producer of Coho in Puget Sound and on west coast
• Upland: Intact upland forests in and around North Cascades National Park, Alpine Lakes, Wild Sky, Glacier Peak Wilderness
 	
Freshwater Resources
• Significant freshwater input from large rivers
• Hydropower for western Washington power grid
• Sultan River provides water supply for Everett
 	
Food and Timber (harvest)
• Strong agriculture base: dairy, flowers, vegetables, berries, nursery
• Shellfish production and Dungeness crab fishery
• Commercial, tribal, and recreational fishing
• Hatcheries provide harvest opportunities and population stability while wild salmon stocks rebuild (North Fork Stillaguamish summer Chinook salmon; South Fork Stillaguamish fall Chinook, Snohomish River)
• Timber, pulp production
 	
Recreation and Tourism
• North Cascades National Park and Wilderness Areas, sport fishing, boating, whale watching, skiing
• Tourist attractions at small waterfront communities
 	
Community and Economy
• Significant employment and population centers, including rural water-connected communities (Camano, Whidbey Islands)
• Deepwater ports that support shipping and industry, including Port of Everett
• Homeland security: Whidbey Island Naval Air Station; Naval Station Everett - home of the USS Abraham Lincoln
• Swinomish Tribe
• Tulalip Tribes
• Potential for tidal power
	Habitat Alteration
	• **Marine/estuary**: Loss of estuary tidal marsh and habitat connectivity, with more than 80% of the Snohomish, approximately 75% of the Skagit, and 85% of the Stillaguamish estuaries diked, cutting off tidal marshes and blind tidal channels; only 18% of historic wetlands remain; potential future impacts from tidal power generation
	• **Shorelines**: Development along lake shorelines, reducing habitat availability and heterogeneity, increasing nitrification, increases in invasive species and toxic algal blooms
	• **Marine nearshore**: 38% of marine shoreline armored; over 5,000 overwater structures; 5.6 miles of railroad grade; disconnected feeder bluffs and pocket estuaries, development in sensitive areas
	• **Freshwater**: Loss of large river habitat complexity and floodplain connectivity from diking, riparian clearing, and floodplain development, reducing wood debris jams, side-channels, forested islands and pools
	• **Uplands**: Loss of working farms and forests through conversion resulting in altered basin hydrology and degraded habitat; 16% increase in impervious surface in Snohomish watershed from 1991-2001; potential future development pressure in nearshore, river valley and upland areas
	
	Pollution
	• **Toxics**: Groundwater contamination leaching from past industrial development
	• **Bacterial pollution**: 48% of impaired waters listings due to bacterial pollution,
	• Dissolved oxygen and temperate concerns found in streams
	• **Nutrient loading**: Eutrophication and dissolved oxygen impairments in Penn Cove, Saratoga Passage, Possession Sound
	• **Surface water runoff impacts**: Pollutant loading from urban stormwater and agricultural runoff; emerging pre-spawn fish mortality concern
	
	Freshwater Resources
	• Limited water availability for people, farms, and fish: Low summer flows in WRIAs 5 & 7;
	• Altered magnitude, frequency and duration of peak flow events in WRIAs 3, 4, 5 & 7
	• Alteration of surface hydrology: Major alterations for flows in Skagit and Sultan Rivers below dams
	• Increased freshwater demand from more people, resulting in decreased aquifer levels, saltwater intrusion, and decreased groundwater discharge
	
	Invasive Species
	• Potential negative ecological impacts on native populations: Japanese knotweed, Spartina
	
	Artificial Propagation
	• Salmon production has potential negative ecological and genetic impacts on natural populations and other hatchery populations; Shellfish production: not identified as a local issue
	
	Harvest
	• Fishing and bycatch, logging, and hunting practices: Local pressures need to be identified
	
	Localized climate change impacts
	• Sea level rise: significant change and loss of estuarine habitat in Snohomish, Stillaguamish, and Skagit estuaries; significant loss of Whidbey Island beaches; risk of salt water intrusion; potential loss of floodplain capacity from from diking
	• Changes in hydrology due to reduced snow pack and forest cover
	
	Other
	• Increase in population by 2025: 49% in Skagit, Island, Snohomish counties (over 380,000 people)
	• Toxic algal blooms in lake systems
		A: Protect Intact Ecosystem Processes, Structures and Functions
		• Protect unique functions of the Action Area: Smith Island kelp, Padilla and Fidalgo Bay eelgrass beds, and unique spawning areas and bird habitat
		• Update and implement regulatory programs: Complete and implement Shoreline Master Program updates on schedule; Adopt clearing and grading ordinances throughout Whidbey Basin;
		• Protect and conserve water flows: Implement flow rules and programs in all basins; upgrade flow rules in Snohomish Basin
		• Evaluate need to protect ecosystem processes and quality of life needs when considering tidal energy projects
		• Protect and support -term working farms, forests, and aquatic lands: Support TDR/PDR programs; provide technical assistance to landowners
		• Invasive species: Continue local efforts to identify and eradicate invasive species impairing habitat
		
		B: Restore Ecosystem Processes, Structures and Functions
		• Implement priority restoration projects: Implement Salmon Recovery three-year work plan (WRIAs 3, 4, 5, 6, 7), and restoration components of shoreline management plans.
		• Complete large scale estuary restoration projects in the Skagit, Snohomish, and Stillaguamish rivers and meet restoration targets set in the salmon recovery plans
		• Implement large-scale floodplain reconnection projects to connect side channels and provide mainstem rivers
		• Prioritize derelict gear removal opportunities
		
		C: Reduce Sources of Water Pollution
		• Prevent pollution:
		  ○ Implement TMDL plans addressing temperature, dissolved oxygen, mercury, and bacteria impairments
		  ○ Develop and implement strategy to address low dissolved oxygen levels in Penn Cove, Holmes Harbor, Saratoga Passage, and Possession Sound, using lessons learned in Hood Canal
		  ○ Provide support for technical assistance and cost-share programs for small farms and commercial agriculture to improve and integrate agricultural nutrient management; integrate small farms into current programs; and keep livestock out of streams
		  ○ Implement STORM group recommendations
		• Manage urban stormwater runoff: Implement NPDES permits, Use and increase site-appropriate LID techniques to manage for future planned growth; begin stormwater retrofits in dense urban areas
		• Manage on-site septic systems
		
		D: Work effectively and efficiently together as a system on priority needs
		• Coordinated long-term strategy:
		  ○ Support integration of species recovery, water quality, aquatic reserve and natural resource management plans, shoreline master programs, and Marine Resource Committee strategies. Start with salmon recovery, MRC, and water management plans.
		  ○ Continue to work cooperatively with farming community to develop a coordinated restoration strategy that balances the needs of agriculture and fish; support engagement of salmon recovery watershed groups with the Snohomish and Skagit County Agricultural Advisory Boards and other farming groups; support collaborative efforts to negotiate the Skagit Delta Tidegates and Fish Initiative
		  ○ Sustain recent collaborative efforts to identify protection and restoration opportunities in the Skagit watershed; Maintain ongoing efforts in the Snohomish and Stillaguamish basins
		  ○ Investigate a permit coordination pilot project in the Snohomish Basin